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U.S. Appln No. 10/776,648
(Attorney's Docket No. DWNS.62631)

Filed: February 10, 2004
Confirmation No. 2005

Inventor: Huzeir Lekovic et al

Art Unit: 1711

TITLE: LOW DENSITY ACOUSTIC
FOAMS BASED ON BIOPOLYMERS

Examiner: John M. Cooney

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY APPEAL BRIEF

Sir:

This is Appellants' Reply Brief in response to the Examiner's Answer dated November 21, 2008.

Beginning at page 3 of the Examiner's Answer, the Examiner maintains the rejection of claims 1-9, 19-25 and 48-54 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More specifically, with respect to Appellants' insertion of limitation to a "non-biopolymer," the Examiner maintains such is not supported by the specification as originally filed. Appellants' maintain that the disclosure as originally filed discloses both biopolymers explicitly, and "non-biopolymers" by implication and therefore Appellants' claims meet the requirements of 35 U.S.C. §112.

Appellant respectfully requests The Board to take judicial notice of the fact that the term "biopolymer" means, to a person of ordinary skill in the art, a polymeric substance formed in a biological system or naturally occurring in nature. The Board's attention is respectfully directed

to the attached excerpt from Webster's Nine New Collegiate Dictionary, which defines a biopolymer as, “a polymeric substance (as a protein or polysaccharide) formed in a biological system.” The Board’s attention is also directed to the attached excerpt from Grant & Hackh’s Chemical Dictionary, which defines biopolymer as “A naturally occurring macromolecule; as, produced by biosynthesis.” Appellants’ disclosure as originally filed disclosed and identifies biopolymers such as, but not limited to, castor oil, soy bean oil, and the like useful in making low density acoustic foams. These biopolymers are polymers that naturally occur in biosystems and are not man-made polymers. Appellants’ specification as originally filed also discloses polymers that are made by man, including, but not limited, SPECFLEX NC 700 (Dow Chemical), VORANOL 391 (Dow Chemical), and JEFFOL A-480 (Huntsman Chemical), to name but a few examples. These man-made polymers do not naturally occur in a biological system and therefore are properly termed “non-biopolymers.” Appellants’ are entitled to amend the claims to include terminology that is not literally disclosed in the specification as filed but which is reasonably conveyed by the specification. Appellants are entitled to retreat or otherwise more clearly define terms in the claims provided that the specification reasonably conveys that Appellants were in possession of the claimed subject matter. Appellants, having disclosed man-made polymers which are not biopolymers, are entitled to amend the claims to use the term “non-biopolymer” in an effort to define the prior art.

Furthermore, the Examiner’s Answer does not maintain any of the other rejections under 35 U.S.C. §112 set forth in the Final Office Action. Therefore, Appellants maintain that the sole issue for The Board’s review under 35 U.S.C. §112 is whether Appellants’ specification reasonably convey that Appellants were in possession of an invention defined by the use of the

term “non-biopolymer” set forth in Appellants’ claims. Appellants respectfully requests The Board reverse the Examiner’s rejections under 35 U.S.C. §112.

Appellants maintain that, with all issues under 35 U.S.C. §112 being resolved in Appellants’ favor, Appellants’ claims define over the prior art for the reasons set forth in Appellants’ Appeal Brief.

In view of the foregoing arguments, and those set forth in Appellants’ Appeal Brief, Appellants respectfully requests The Board to reverse all of the rejections set forth in the Examiner’s Answer.

Respectfully submitted,



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building) 2 : a biological agent or condition (as in laboratory conditions) that controls environment; also : a hazard posed by astronauts in flight

stro-men-ta-shan, -men-¹ n (1962) instruments for recording and transmitting

astronauts in flight

ge-ical \i-kał\ n (1921) : a biological

1 : of or relating to biology or to life produced by applied biology — bi-

herent timing mechanism that is inherent (as in a cell) in order to explain various biological processes

ction in numbers or elimination of pest

her ecology (as by the introduction of

i) : BIOCHEMICAL OXYGEN DEMAND fare involving the use of living organic products against men, animals, or the use of synthetic chemicals harmful

1924) : preoccupation with biological situations — bi-olog-ic-tic \i-äl-

ie, fr. bi- + -logie -logy] (1813) 1 : a with living organisms and vital pro-

life of a region or environment b im or group; broadly : ECOLOGY — bi-

nes-n(t)s\ n [ISV] (1916) : the emis-

s; also : the light so produced — bio-

2 : the amount of living matter (as in a

2 : plant materials and animal waste

n (1966) : material used for or suitable

1 direct contact with living tissues

iks, -math'-mat-\ n pl but usu sing in

special use in biology and medicine —

— bio-math-e-ma-tician, \i-math-

(1916) : a major ecological community

s\ n pl but sing or pl in constr (1933)

d esp. muscular activity (as in locomoti-

cal \i-kał\ adj — bio-mech-an-i-cal

if (1955) 1 : of or relating to biomedical

biological, medical, and physical

usu -med-sən\ n (1947) : a branch of

with the capacity of human beings to

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GRANT & HACKH'S
**CHEMICAL
DICTIONARY**

[*American, International, European and British Usage*]

*Containing the Words Generally Used in Chemistry,
and Many of the Terms Used in the Related
Sciences of Physics, Medicine, Engineering,
Biology, Pharmacy, Astrophysics,
Agriculture, Mineralogy, etc.*

Based on Recent Scientific Literature

FIFTH EDITION
Completely Revised and Edited by

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ISBN 0-07-024067-1

The previous edition of this book was *Hackh's Chemical Dictionary*,
4th ed., published by McGraw-Hill in 1969. It was prepared by Dr.
Julius Grant from a *Chemical Dictionary* compiled by Ingo W. D.
Hackh. The current, or 5th, edition of this book was prepared by Dr.
Roger L. Grant, whose father prepared the 4th edition.

*The editors for this book were Betty J. Sun and Susan Thomas,
the designer was Naomi Auerbach, and the production
supervisor was Teresa F. Leaden. It was set in Palatino
by University Graphics, Inc.*

Printed and bound by R. R. Donnelley & Sons Company.

TABLE 15. BIOLOGY-RELATED SCIENCES

Energy transformation	Biophysics								
Matter changes	Biochemistry								
MORPHOLOGY	<table border="0"> <tr> <td>Cells</td> <td>Cytology</td> </tr> <tr> <td>Tissues</td> <td>Histology</td> </tr> <tr> <td>Organs</td> <td>Anatomy</td> </tr> <tr> <td>Organisms</td> <td>Taxonomy</td> </tr> </table>	Cells	Cytology	Tissues	Histology	Organs	Anatomy	Organisms	Taxonomy
Cells	Cytology								
Tissues	Histology								
Organs	Anatomy								
Organisms	Taxonomy								
PHYSIOLOGY	<table border="0"> <tr> <td>Generative</td> <td>Embryology</td> </tr> <tr> <td>Sustentative</td> <td>Metabolism</td> </tr> <tr> <td>Correlative</td> <td>Circulation and nerves</td> </tr> </table>	Generative	Embryology	Sustentative	Metabolism	Correlative	Circulation and nerves		
Generative	Embryology								
Sustentative	Metabolism								
Correlative	Circulation and nerves								
PATHOLOGY	<table border="0"> <tr> <td>Plants</td> <td>Phytopathology</td> </tr> <tr> <td>Animals</td> <td>Zoopathology</td> </tr> <tr> <td>Man</td> <td>Pathology</td> </tr> </table>	Plants	Phytopathology	Animals	Zoopathology	Man	Pathology		
Plants	Phytopathology								
Animals	Zoopathology								
Man	Pathology								
ETIOLOGY	<table border="0"> <tr> <td>The race</td> <td>Phylogeny</td> </tr> <tr> <td>The individual</td> <td>Ontogeny</td> </tr> </table>	The race	Phylogeny	The individual	Ontogeny				
The race	Phylogeny								
The individual	Ontogeny								
CHOROLOGY	<table border="0"> <tr> <td>Plants</td> <td>Flora</td> </tr> <tr> <td>Animals</td> <td>Fauna</td> </tr> <tr> <td>Plants and animals</td> <td>Ecology</td> </tr> </table>	Plants	Flora	Animals	Fauna	Plants and animals	Ecology		
Plants	Flora								
Animals	Fauna								
Plants and animals	Ecology								
PALEONTOLOGY	<table border="0"> <tr> <td>Plants</td> <td>Paleobotany</td> </tr> <tr> <td>Animals</td> <td>Paleozoology</td> </tr> <tr> <td>Man</td> <td>Ethnology</td> </tr> </table>	Plants	Paleobotany	Animals	Paleozoology	Man	Ethnology		
Plants	Paleobotany								
Animals	Paleozoology								
Man	Ethnology								

biometry The application of statistics to biological science.

biomolecule A molecule of protoplasm; a unit of living substance. Cf. *idioblast*, *protoplasm*.

bionomy The measurement of life phenomena.

bio-osmosis The osmotic pressure of living cells.

biophage A cell or organism feeding on living cells or organisms.

biophore Biomone. The smallest particle of living matter, consisting of protoplasm.

bioplasm Protoplasm.

bioplast Micelle.

biopolymer A naturally occurring macromolecule; as, produced by biosynthesis.

biorization Pasteurization at 100–300 kPa.

bios $C_5H_{11}O_3N = 133.1$. A crystalline substance similar in character to a vitamin, which was found to be essential for the growth of certain types of yeast, m.223. Now known to consist principally of nicotinic acid and panthothenic acid.

biose A carbohydrate containing 2 carbon atoms, e.g., $HO \cdot CH_2 \cdot CHO$. Cf. *tetrose*, *hexose*.

biosphere The air, land, sea, and water immediately surrounding mankind.

biosterin Bioterol.

biosterol $C_{22}H_{44}O_2 = 340.7$. An alcohol resembling cholesterol.

biota The flora and fauna of a region.

biotechnology The application of living organisms, or their biological systems or processes, to the manufacture of useful products; e.g., *genetic engineering*, q.v., *single-cell protein*, q.v., *biogas*, q.v., drugs (as, insulin) and chemicals from biomass.

biotic Pertaining to life or living organisms.

biotin* $C_{10}H_{16}O_3N_2S = 244.3$. A member of the vitamin B complex. Yeasts and bacteria contain or make B. Deficiency occurs only if diet consists largely of raw eggs; their white contains an antivitamin, avidin. B. is a coenzyme for carboxylases. See *vitamins*, Table 101 on p. 622.

biotite A brown-black ferrous mica.

biotoxin A toxin formed in the tissues of the living body.

bioxalate Hydrogenoxalate*.

bioxyl Bismuthyl chloride.

biozeolite A zeolitic biological slime from sewage filters.

biperiden $C_{21}H_{29}ON = 311.5$. Akineton. White crystals, insoluble in water; used to treat Parkinson's disease (USP, BP).

biphenyl (1)* $(C_6H_5)_2 = 154.2$. Phenylbenzene. Colorless scales, m.71, insoluble in water. (2) The biphenyl¹* radical.

amino ~ $PhC_6H_4 \cdot NH_2 = 169.2$. *ortho*-~ Biphenyl amine. Colorless crystals, m.45. *para*-~ Xenyl amine, *p*-phenylaniline, martyamine. White leaflets, m.53.

diamino ~ $NH_2C_6H_4 \cdot C_6H_4NH_2 = 184.2$. *2,2'*-~ Colorless crystals, m.81. *4,4'*-~ Benzidine*. *dimethyl* ~ Ditolyl*.

methyl ~ $Ph \cdot C_6H_4 \cdot Me = 168.2$. Phenyl tolyl. *meta*-~ Colorless liquid, b.275. *para*-~ Colorless liquid, b.265.

biphenylene (1)* The hypothetical compound $C_6H_4 \cdot C_6H_4$.

(2) The radical $-C_6H_4 \cdot C_6H_4-$. *b.bisazo* The radical $-N:NC_6H_4 \cdot C_6H_4N:N-$. *b. oxide* Diphenylenefuran.

biphenyl¹* [1,1'-Biphenyl]yl†, biphenyl, diphenyl; xenyl (*para* only). The radical $C_6H_5 \cdot C_6H_4-$, from biphenyl.

b.amine Aminobiphenyl. *b.diamine* 2,2'-~

Diaminobiphenyl. 4,4'-~ Benzidine*. *b.imide* Carbazole*.

b.mercury $(PhC_6H_4)_2Hg = 507.0$. White scales, m.216.

BIPP A mixture of bismuth, iodoform, and paraffin; an antiseptic paste for infected wounds.

bipropargyl 1,5-Hexadiyne*.

bipropenyl 2,4-Hexadiene*.

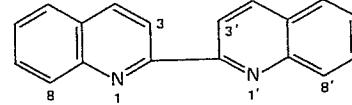
bipseudoindoxyl Indigo.

bipyridyl¹* $NH_4C_5 \cdot C_5H_4N = 156.2$. Dipyridyl, bipyridine†.

m.	b.	Water solubility
2,2'-	70	272
2,3'-	liquid	288
2,4'-	62	281
3,3'	68	291
3,4'-	61	297
4,4'-	114	305

biquinoline* $C_{18}H_{12}N_2 = 256.3$. Diquinoline. 2,2'-~ Crystals, m.196. 2,3'-~ Yellow crystals, m.176. 6,6'-~ Crystals, m.181.

biquinolyl¹* $C_{18}H_{12}N_2 = 256.3$. Diquinolyl, biquinoline. 2,2'-~ m.196:



8,8'-~ Brown crystals, m.94; reagent for cuprous ions (purple complex soluble in many solvents; sensitivity 0.2 ppm).

birch A tree of the genus *Betula*. *b. camphor* Betulinol. *b. oil* Sweet b. oil, betula oil. The essential oil from the bark of *Betula lenta*, black birch. Colorless oil, d.1.127–1.182, b.218–222 (chief constituent is methylsalicylate); a flavoring and liniment. *b.-tar oil* A tarry oil from the wood of *Betula alba*, white birch. Brown oil with empyreumatic odor, d.0.886–0.950, soluble in alcohol (chief constituents phenols and cresols). Used in ointments and in leather dressing. *b.wood carbon* Norit.